

AMENDMENTS TO THE CLAIMS

1-15. (Canceled)

16. (Currently Amended) An object presence detection system, the system comprising:
at least one region of interest;
object detection equipment disposed conveniently to said at least one region of interest, wherein said object detection equipment comprises at least ~~The system of claim 15~~
~~wherein said at least one transmitter is a radio frequency transmitter;~~
a set of objects for detection by said object detection equipment; and
at least one antenna disposed on each object of said set of objects for uniquely identifying each said object of said set of objects to said object detection equipment.

a 17. (Currently Amended) An object presence detection system, the system comprising:
at least one region of interest;
object detection equipment disposed conveniently to said at least one region of interest, ~~The system of claim 11~~ wherein said object detection equipment comprises[:] at least one receiver;
a set of objects for detection by said object detection equipment; and
at least one antenna disposed on each object of said set of objects for uniquely identifying each said object of said set of objects to said object detection equipment.

18. (Original) The system of claim 17 wherein said at least one receiver is a radio frequency receiver.

19. (Canceled)

20. (Original) A system for detecting object presence, the system comprising:
means for transmitting RF (radio frequency) energy towards objects in a region of interest;
means for receiving RF energy from said objects in said region of interest;
means for generating at least one resonant frequency to represent an object population in said region of interest;
means for altering said received RF energy with said generated at least one resonant frequency; and
means for analyzing said altered received RF energy.

21. (Original) The system of claim 20 further comprising:
means for identifying said object population based on said analyzed altered received RF energy.

22. (Original) The system of claim 20 wherein said means for generating comprises:
at least one distinctively dimensioned antenna on each object of said object population.

23. (New) A container comprising:
object presence detection equipment internal to said container, said equipment comprising at least one transmitter of transmitted signal energy and at least one receiver of received signal energy;
a set of objects for object presence detection internal to said container, such that an object of said set of objects is operable to modify said transmitted signal energy of a selected frequency to generate said received signal energy of said selected frequency; and
a container wall substantially surrounding said object presence detection equipment and said set of objects, said wall operable to shield said equipment and said set of objects from extraneous external signals.

24. (New) The container of claim 23 wherein said set of objects comprises a tape cartridge.

25. (New) The container of claim 23 wherein said set of objects is disposed in a configuration selected from a linear array, a two-dimensional array, and a three-dimensional array.

26. (New) The container of claim 25 wherein said set of objects comprises a plurality of arrays of objects.

27. (New) The container of claim 26 wherein each array of said plurality of arrays of objects has associated transmitters, receivers, analyzing circuitry, and data processing equipment.

28. (New) The container of claim 23 wherein said transmitted and said received signal energy are selected from electromagnetic radio-frequency energy, sonic energy, and ultrasonic energy.

a 29. (New) The container of claim 28 wherein said object is operable to modify said transmitted signal energy of a selected frequency by resonating at said frequency.

30. (New) The container of claim 29 wherein said resonating is enhanced by variable resonant material characteristics selected from length, width, thickness, material composition, electrical resistance, electrical excitation, application of tensile force, application of compressive force, temperature, electrical induction, and electrical capacitance.

31. (New) The container of claim 29 wherein objects in a subset of said objects within said set of objects are interchangeable and resonate at the same frequency.

32. (New) The container of claim 23 wherein said at least one transmitter and said at least one receiver are combined into at least one transceiver.

33. (New) A method for identifying objects within a set of objects in a container, said method comprising:

transmitting a signal within said container;
modifying said transmitted signal at a selected frequency by at least one object of said set of objects;
receiving said modified signal within said container;
analyzing and processing said received signal; and
shielding the interior of said container from extraneous external signals.

34. (New) The method of claim 33 wherein said set of objects comprises a tape cartridge.

35. (New) The method of claim 33 wherein said set of objects is disposed in a configuration selected from a linear array, a two-dimensional array, a three-dimensional array, and a plurality of said arrays.

36. (New) The method of claim 33 wherein said transmitted and said received signals are selected from electromagnetic radio-frequency signals, sonic signals, and ultrasonic signals.

37. (New) The method of claim 36 wherein said modifying is performed by resonating at said selected frequency.

38. (New) A system for identifying objects within a set of objects in a container, said system comprising:

means for transmitting a signal within said container;
means for modifying said transmitted signal at a selected frequency by at least one object of said set of objects;
means for receiving said modified signal within said container;
means for analyzing and processing said received signal; and
means for shielding the interior of said container from extraneous external signals.

39. (New) The system of claim 38 wherein said set of objects comprises a tape cartridge.

40. (New) The system of claim 38 wherein said transmitted and said received signals are selected from electromagnetic radio-frequency signals, sonic signals, and ultrasonic signals.

41. (New) The system of claim 40 wherein said means for modifying comprises resonating at said selected frequency.

42. (New) A tape storage container comprising:
object presence detection equipment internal to said container, said equipment comprising at least one transmitter of transmitted signal energy and at least one receiver of received signal energy;

a plurality of tape cartridges for object presence detection internal to said container, such that a tape cartridge of said plurality of tape cartridges is operable to modify said transmitted signal energy of a selected frequency to generate said received signal energy of said selected frequency; and

a metallic outer body substantially surrounding said object presence detection equipment and said plurality of tape cartridges, said metallic outer body operable to shield said equipment and said tape cartridges from extraneous external signals.

43. (New) The container of claim 42 wherein said plurality of tape cartridges is disposed in a configuration selected from a linear array, a two-dimensional array, and a three-dimensional array.

44. (New) The container of claim 43 wherein said plurality of tape cartridges comprises a plurality of arrays of objects.

45. (New) The container of claim 44 wherein each array of said plurality of arrays of tape cartridges has associated transmitters, receivers, analyzing circuitry, and data processing equipment.

46. (New) The container of claim 42 wherein said transmitted and said received signal energy are selected from electromagnetic radio-frequency energy, sonic energy, and ultrasonic energy.

47. (New) The container of claim 46 wherein said object is operable to modify said transmitted signal energy of a selected frequency by resonating at said frequency.

48. (New) The container of claim 47 wherein said resonating is enhanced by variable resonant material characteristics selected from length, width, thickness, material composition, electrical resistance, electrical excitation, application of tensile force, application of compressive force, temperature, electrical induction, and electrical capacitance.

a 49. (New) The container of claim 47 wherein tape cartridges in a subset of said tape cartridges within said plurality of tape cartridges are interchangeable with one another and resonate at the same frequency.

50. (New) The container of claim 42 wherein said at least one transmitter and said at least one receiver are combined into at least one transceiver.
